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Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claim 1 (previously presented): A thin film thickness measurement apparatus comprising:

- a light source;
- a plurality of optical fibers for directing light from said light source substantially perpendicular to a substrate and for receiving light reflected from said substrate;
- an analyze unit for analyzing thickness of a thin film of said substrate according to intensity of reflected light received by said optical fibers, wherein
 - (a) at least one of the optical fibers guides the light from said light source onto said substrate and receives light reflected from said substrate, and
 - (b) at least one of the optical fibers guides the reflected light from said substrate to said analyze unit; and
- a shutter for selectively blocking the reflected light received by at least one of the optical fibers.

Claims 2-9 (canceled)

Claim 10 (original): The thin film thickness measurement apparatus according to claim 1, said analyze unit including

- a spectroscope dividing reflected light from said substrate according to intensity of each wavelength, and
- a calculation unit calculating thickness of a thin film of said substrate according to intensity of each wavelength divided by said spectroscope.

Claim 11 (original): The thin film thickness measurement apparatus according to claim 10, wherein said calculation unit calculates thickness of said thin film by equations of:

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$$R = \frac{R(2, 1) + R(1, 0) \times k^2 + 2 \times \rho(2, 1) \times \rho(1, 0) \times k \times \cos(\gamma)}{1 + R(2, 1) + R(1, 0) \times k^2 + 2 \times \rho(2, 1) \times \rho(1, 0) \times k \times \cos(\gamma)}$$

$$\rho(2, 1) = \frac{n_1 - n_2}{n_1 + n_2}$$

$$\rho(1, 0) = \frac{n_0 - n_1}{n_0 + n_1}$$

$$R(2, 1) = \rho(2, 1)^2$$

$$R(1, 0) = \rho(1, 0)^2$$

$$\gamma = 4\pi n_1 d / \lambda$$

where n_0 is a refractive index of said substrate, n_1 is a refractive index of said thin film, n_2 is a refractive index of air, λ is a wavelength of light, and k is an absorption coefficient of said thin film.

Claim 12 (currently amended): The thin film thickness measurement apparatus according to claim 11, wherein said ~~light receiving unit~~plurality of optical fibers directs light substantially perpendicular to a substrate placed on a robot hand.

Claim 13 (currently amended): The thin film thickness measurement apparatus according to claim 11, wherein said ~~light receiving unit~~plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 14 (original): The thin film thickness measurement apparatus according to claim 10, wherein said calculation unit calculates thickness of said thin film by equations of:

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$$R(p+1, 0) = \frac{A+B}{1+C+B}$$

$$A = R(p+1, p) + R(p, 0) \times k^2$$

$$B = 2 \times \rho(p+1, p) \times \sqrt{R(p, 0)} \times k \times \cos(\gamma(p, 0) + \gamma(p))$$

$$C = R(p+1, p) \times R(p, 0) \times k^2$$

$$\rho(p+1, p) = \frac{n(p) - n(p+1)}{n(p) + n(p+1)}$$

$$R(p+1, p) = \rho(p+1, p)^2$$

$$\tan \gamma(p, 0) = \frac{D}{E+F}$$

$$D = \sqrt{R(p-1, 0)} \times (1 - \rho(p, p-1)^2) \times \sin(\gamma(p-1, 0) + \gamma(p-1))$$

$$E = \rho(p, p-1) \times (1 + R(p-1, 0))$$

$$F = \sqrt{R(p-1, 0) \times (1 + \rho(p, p-1)^2) \times \cos(\gamma(p-1, 0) + \gamma(p-1))}$$

$$\gamma(p) = 4\pi n(p)d(p) \cos \theta(p) / \lambda$$

where n_0 is a refractive index of said substrate, $n(p)$ is a refractive index of the p -th layer of thin film from said substrate, $n(p+1)$ is a refractive index of air, λ is a wavelength of light, and k is an absorption coefficient of said p -th layer of thin film.

Claim 15 (currently amended): The thin film thickness measurement apparatus according to claim 14, wherein said ~~light receiving unit~~plurality of optical fibers directs light substantially perpendicular to a substrate placed on a robot hand.

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Claim 16 (currently amended): The thin film thickness measurement apparatus according to claim 14, wherein said ~~light receiving unit~~ plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 17 (currently amended): The thin film thickness measurement apparatus according to claim 1, wherein said ~~light receiving unit~~ plurality of optical fibers directs lights substantially perpendicular to a substrate placed on a robot hand.

Claim 18 (currently amended): The thin film thickness measurement apparatus according to claim 1, wherein said ~~light receiving unit~~ plurality of optical fibers is installed in a neighborhood of an outlet of a gate valve of a film growth apparatus.

Claim 19 (previously presented): A thin film thickness measurement method comprising the steps of:

- providing a plurality of optical fibers;
- directing light from a light source substantially perpendicular to a substrate via at least one of the optical fibers;
- receiving light reflected from said substrate via at least one of the plurality of optical fibers;
- utilizing a shutter to selectively block reflected light received by at least one of the optical fibers; and
- analyzing thickness of a thin film of said substrate according to intensity of said received reflected light.

Claim 20 (original): The thin film thickness measurement method according to claim 19, wherein said step of measuring thickness of said thin film includes the steps of

- dividing reflected light from said substrate according to intensity of each wavelength, and
- calculating thickness of a thin film of said substrate according to said intensity of each wavelength divided.

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Claims 21-59 (canceled)